

# **PROFESSIONAL DEL REY HEATER**

## **USE AND INSTALLATION INSTRUCTIONS**



**MODELS:**  
**DCS-DRH48N**



**FOR NATURAL  
GAS ONLY**

## A MESSAGE TO OUR CUSTOMERS

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Thank you for selecting Dynamic Cooking Systems Professional Del Rey Heater. Because of this appliance's unique features we have developed this Use and Installation Guide. It contains valuable information on how to properly operate and maintain your new appliance for years of safe and enjoyable use.

To help serve you better, please fill out and return the Ownership Registration Card and keep this guide handy, as it will help answer questions that may arise as you use your new appliance.

For your convenience, product questions can be answered by a DCS Technical Support Representative by phone:  
1-888-396-2665, or Fax: 714-372-7003,

or by mail:

Dynamic Cooking Systems, Inc.  
Attention Customer Service,  
5800 Skylab Road, Huntington Beach, CA 92647



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## **Safety Practices & Precautions**

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- When properly cared for, your Del Rey Heater will give safe, reliable service for many years. However, extreme care must be used since the heater produces intense heat and can increase accident potential. When using this appliance basic safety practices must be followed, including the following:
- Read this Care and Use Guide carefully and completely before using your heater to reduce the risk of fire, burn hazard or other injury. Begin by ensuring proper installation and servicing. Do not repair or replace any part of the heater unless specifically recommended in this manual. All other service should be referred to a qualified technician.



**WARNING** Do not try lighting this appliance without reading the “LIGHTING INSTRUCTIONS” section of this manual.



**FOR YOUR SAFETY** If you smell gas:

1. Shut off gas to the appliance.
2. Extinguish any open flames.
3. If odor continues, immediately call your gas supplier.

- Do Not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not use in an explosive atmosphere, keep heater away from areas where gasoline or other flammable liquids or vapors are stored or used.
- Before each use check for damaged parts such as hoses, or burner.
- Do not attempt to alter unit in any manner.
- It is imperative that the control compartment, burners, and circulation air passageways of the heater must be kept clean. The heater should be inspected before each use, and at least annually by a qualified service person, for the presence of spiders, webs or other insects. The burner area is a common and desired spider haven.



**Insect Warning** Spiders and insects can nest in the burner of this and any other heater. Spider webs can present a dangerous condition which can damage the heater and render it unsafe for use.

## **Safety Practices & Precautions**

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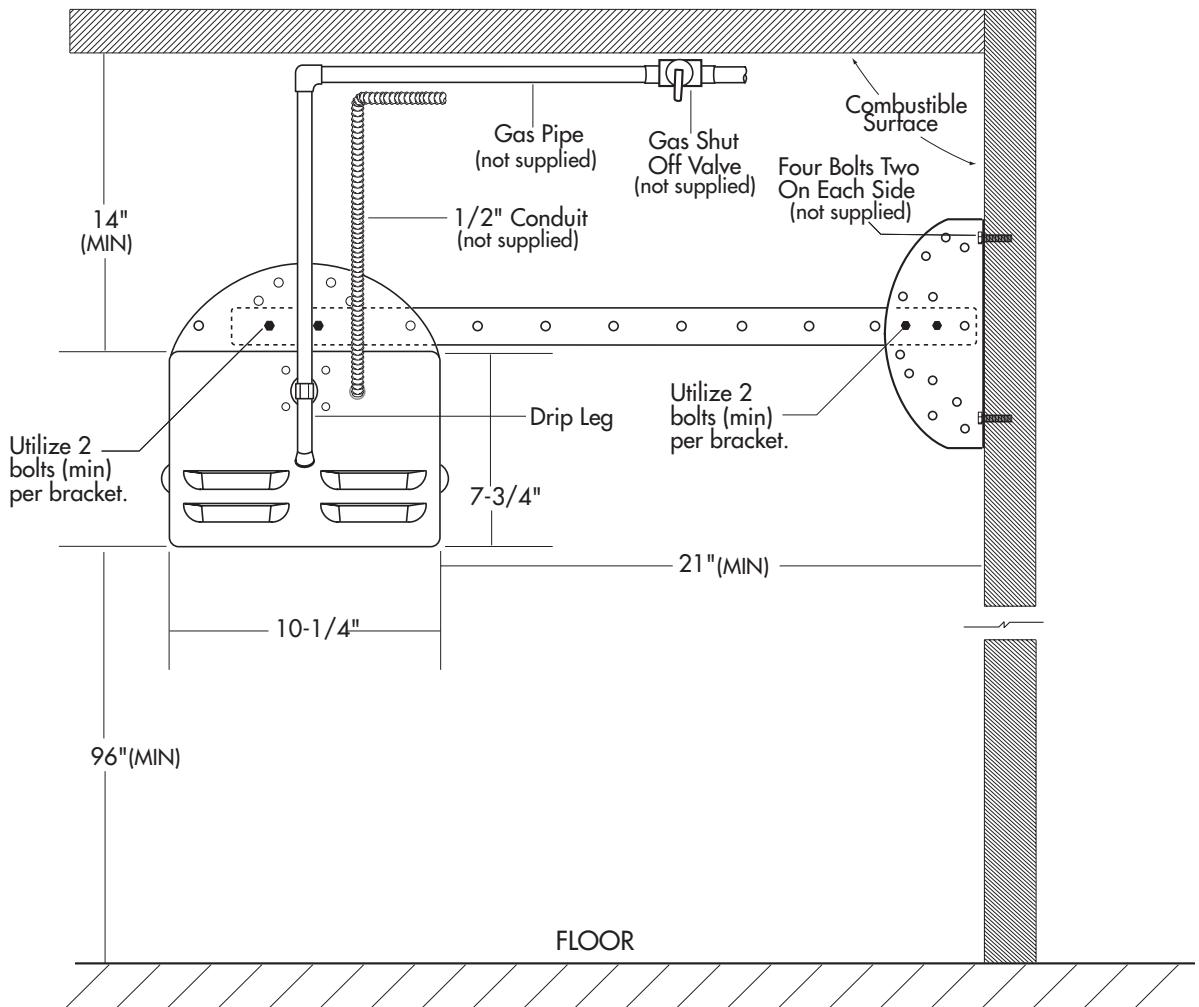
- Children should not be left alone or unattended in an area where the heater is being used. Never allow them to sit, stand or play on or around the heater at any time. When in use, portions of the heater get hot enough to cause severe burns.
- Never let clothing, or other flammable materials come in contact with or too close to any part of heater or hot surface until it has cooled. Fabric may ignite and result in personal injury.
- Begin by insuring proper installation and servicing. Follow the installation instructions provided with this product. Have your heater installed by a qualified technician. Have the installer show you where the gas supply shut off valve is located so that you know where to shut off the gas to the heater. If you smell gas, your installer has not done a proper job of checking for leaks. If the connections are not perfectly seated and tightened, you can have a small leak and therefore a faint gas smell. Finding a leak is not a “do-it-yourself” procedure. Some leaks can only be found with the heater in operation mode and for your protection it must be done by a qualified service technician. Never use an open flame to locate leak.
- Clean the heater with caution. Avoid steam burns; do not use a wet sponge or cloth to clean the heater while it is hot. Some cleaners produce noxious fumes or can ignite if applied to a hot surface.
- Be sure all heater controls are turned off and the heater is cool before using any type of aerosol cleaner on or around the heater. The chemical that produces the spraying action could, in the presence of heat, ignite or cause metal parts to corrode.
- Do not operate the heater under unprotected combustible construction, maintain clearances. Use only in well ventilated areas.
- Keep the area surrounding the heater free from combustible materials, trash, or combustible fluids and vapors such as gasoline or charcoal lighter fluid. Do not obstruct the flow of combustion and ventilation air.
- To avoid the risk of burns or accidental cloth ignition, do not touch the heater anywhere near the burner assembly during operation.
- Do not touch the burner assembly until after the heater has cooled.
- Carefully monitor young children in the vicinity of any operating heater.
- Do not hang clothing or any other flammable materials from, on, or near the heater.
- All leak tests should be done with a soap solution. Matches should never be used for this purpose.
- This outdoor heater is primarily for temporary heating of outdoor patios, decks, spas, pool, and work areas.

# Clearances

## 0° Installation

Minimum clearances to combustible material.

Side View

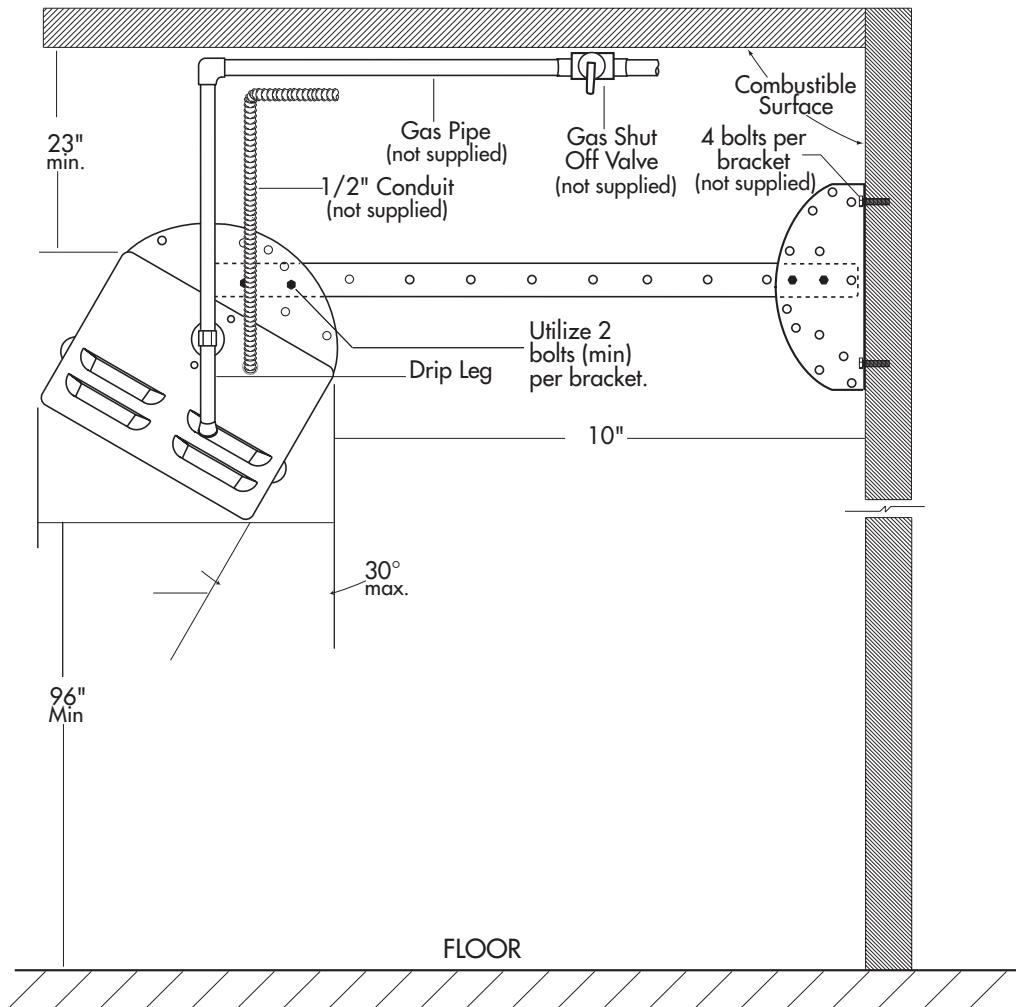


## 30° Installation

Minimum clearances to combustible material.

Note: Mounting channels can be hacksawed 13" for use in 30° installations.

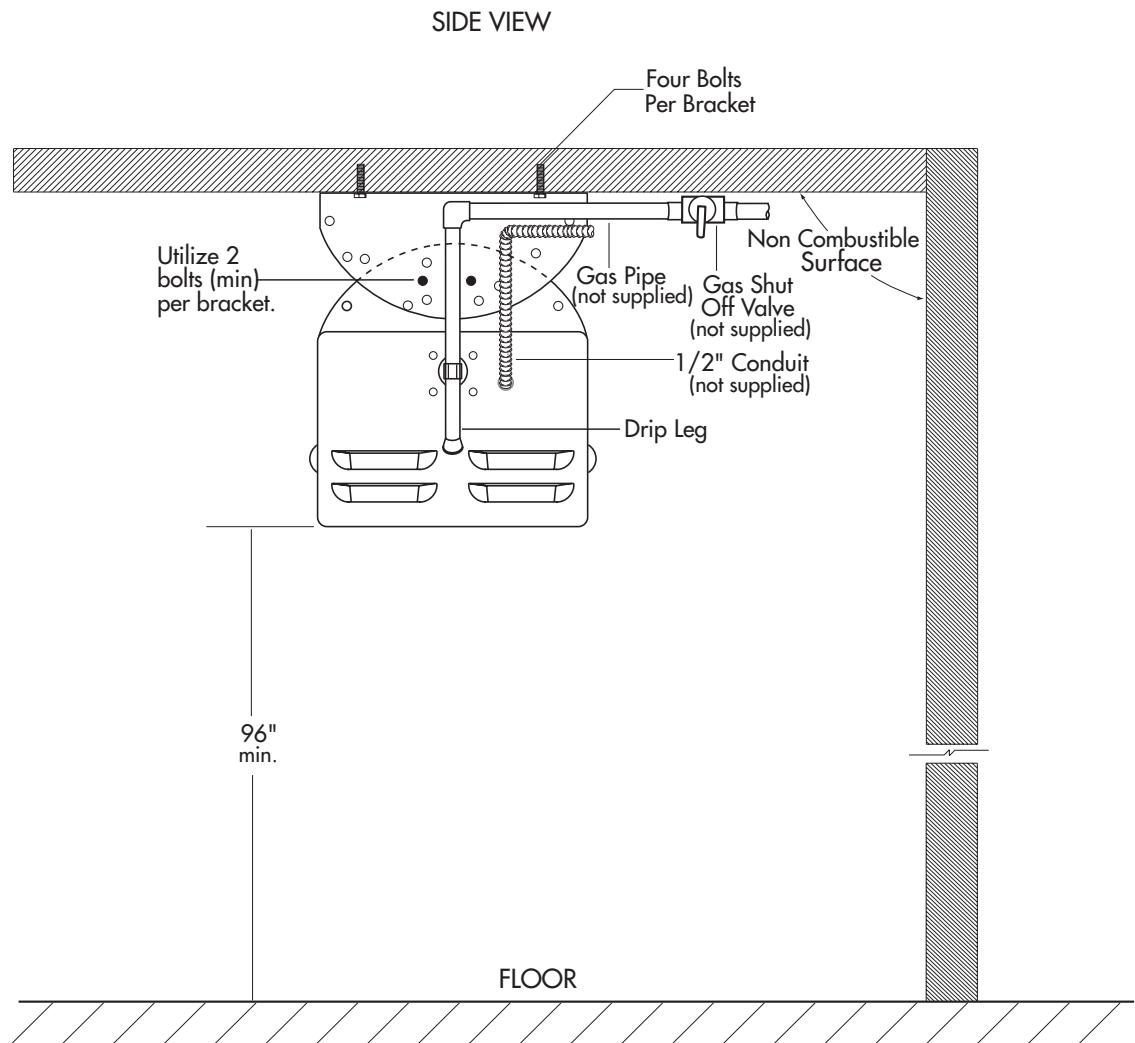
SIDE VIEW



# Clearances

## **0° Installation**

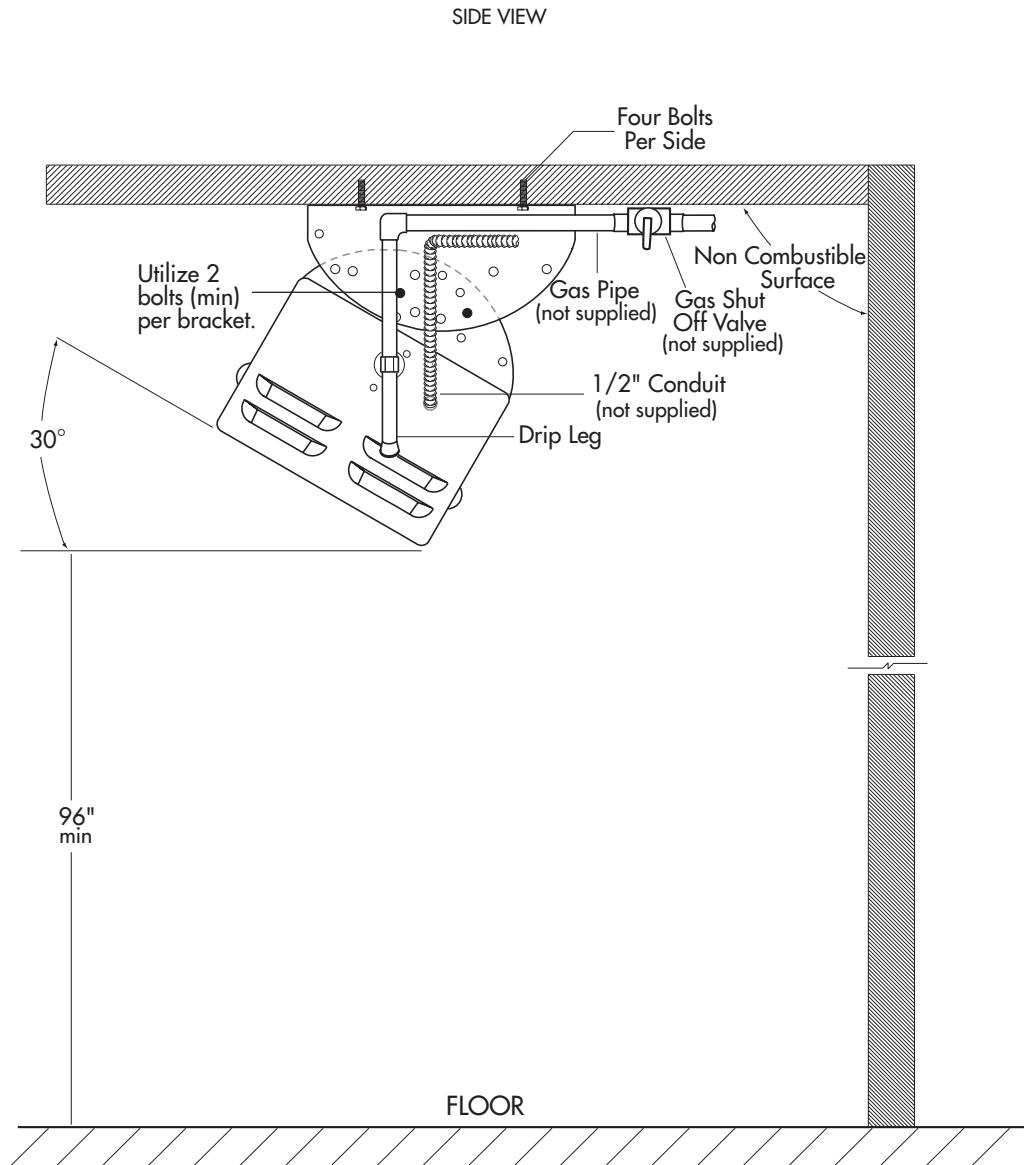
**Minimum clearances to non-combustible material.**



## 30° Installation

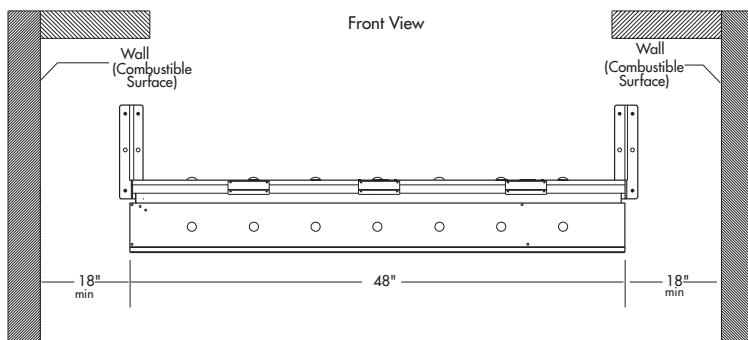
Minimum clearances to non-combustible material.

Note: Mounting channels can be hacksawed 13" for use in 30° installations.



# Locating Heater

## 0° & 30° Installation (Minimum clearances to combustible material).



### Installation:

The Del Rey Heater provides radiant warmth \*indoors (commercial applications only) or outdoors with a powerful 58,000 BTU'S/HR natural gas. All units are equipped with hot surface ignition and 100% shutoff valve for safety. Del Rey Heaters to be installed in Aircraft Hangers must be installed in accordance with American National Standards for Aircraft Hangers, ANSI/NFPA No. 409. Heaters to be installed in public garages must be installed in accordance with NFPA No. 88A standards for parking structures. Heaters must be installed so that minimum clearances marked on the heater will be maintained from vehicles parked below the heater.

The installation must conform with ANSI standard No. Z223.1 entitled National Fuel Gas Code and any applicable local codes. In Canada, the installation must conform with local building codes or, in the absence of local codes, with National Standards of Canada CAN/CGA-B 149.1 & 2-M86. Each heater must be electrically grounded in accordance with the National Electrical Code, ANSI/NFPA 70 when an external electrical source is utilized. In Canada, the CSA Canadian Electrical Code, C22.1, Part 1 applies.

The gas inlet supply and normal operating manifold pressure for each heater are as follows. For gas supply line pressures in excess of 1/2 psig, contact your dealer or the factory.

### Gas Inlet Pressure

maximum: pressure Natural Gas: 1/2 psig

minimum: pressure Natural Gas: 6 W.C.

manifold: pressure Natural Gas: 5 W.C.

The heater has an internal 5" W.C. regulator.

**Note:** This unit is for use with natural gas only.

Do not locate either the gas or electrical supply line directly over the flue outlet of the heater. Electrical supply line shortage and / or control overheating may occur. The heater must be installed in a location such that it is accessible for servicing and have no restriction of air flow to the air inlet of the heaters casing.

A ~~24 VAC, 40 VA~~ transformer has been included with the product. The on-off control of the heater should be controlled from 120 VAC side of the transformer. A UL approved outdoor wall switch must be used for this purpose.

## Mounting

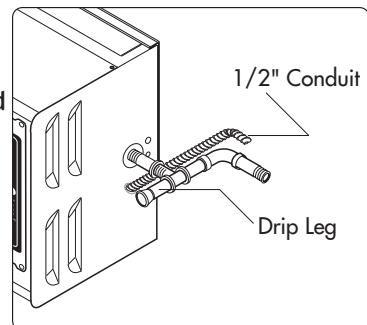
Each heater must be installed such that the following "minimum clearance to combustibles must be maintained. Combustible materials such as wood, paper, foliage, plastic, plexiglass or other materials capable of being ignited and burned. Such materials shall be considered combustible even through flame-proofed, fire retardant treated or plastered. Additional clearances may be required for glass, painted surfaces and other materials which may be damaged by radiant or convection heat.

## Electrical

(A 24 volt NEC class 2 transformer has been included to the heater). A step down transformer approved as having at least a 40 VA rating must be utilized for each connected heater. Control wires used to electrically connect one or more heaters together must have both adequate capacity and insulation temperature ratings for the total connected load. Use at least 18 ga. wire up to 50 ft. from heater to transformer or wall switch. Use 16 ga. over 50 ft. distance. If the original wires supplied should need replacement. It must be replaced with wiring material having a temperature rating of at least 105 degrees Centigrade.

## Gas Piping

A minimum pipe size of 1/2" is required for inlet piping. A 1/2" lever handled shut-off gas cock should be installed within 6 feet of the appliance for servicing the unit. Check with local and state plumbing and heating codes regarding sizing of the gas lines. Installation of a drip leg in the gas supply line going to each heater is required to minimize the possibility of any loose scale or dirt within the gas supply line from entering the heater's control system.



# Leak Testing

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## Ventilation

A minimum building ventilation rate of 4 CFM per 1000 BTU'S of installed heater input must be provided. This rate of ventilation may be obtained through either gravity or mechanical ventilation of the building. In conjunction with building ventilation system, adequate fresh air into the building must be provided through fresh air inlets and/or building inlets. It is recommended local code be checked to assure the ventilation system and heat installation are in compliance with local and/or state code

When checking for gas leaks, do not use an open flame. Use a soap and water solution. Installation of 1/8" NPT plugged tapping, accessible for test gage connections, is required upstream of the gas supply connection to the heater. **NOTE:** Gas connections on the heater are leak tested at the factory prior to shipment.

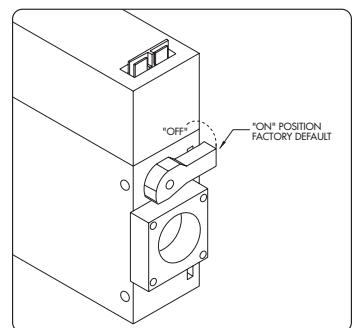
## Precautions:

- Periodically check the whole gas system for leaks or immediately check if the smell of gas is detected. Extinguish all open flames
- Never leak test while smoking.
- Do not use heater until all connections have been leak tested and do not leak.
- When leak testing, refer to the connections diagrams
- Only those parts recommended by the manufacturer should be used.
- Substitution can void warranty.

## Leak Test:

Make a soap solution of one part liquid detergent, and one part water. The soap solution can be applied with a spray bottle, brush or rag, soap bubbles will appear where a leak is present.

Turn the gas supply "on" check for leaks at leak points. If a leak is present, turn off supply, tighten any leaking fittings, turn gas on and recheck.



**Note:** There is a manual shut-off lever on the internal heat control valve/regulator. This lever is shipped in the "ON" position (Default position).

## **Operation Instructions**

Upon installation of the heater and completion of the gas line and electrical supply to each heater, follow the steps outlined in the “lighting instructions”. “Lighting instructions” are also provide on the control panel.

Turn gas and power to “ON”. The igniter should light within the first 4 seconds. If not, the electrode sensor will shut-off the hot surface igniter. The igniter will attempt to light 3 times before “locking out”. During initial installation, this will happen if the gas line is not purged. To reset the control, shut off the power to the unit and wait 5 seconds. Turn power back to “ON” position. This will allow for 3 more lighting attempts.

### **To Start Heater**

- 1). Turn manual gas valve to “ON” position.
- 2). Turn electrical supply “ON”.

### **To Shut Down Heater**

- 1). Turn electrical supply “OFF”.
- 2). Turn manual gas valve to “OFF” position.



**CAUTION:** If burner fails to ignite, shut down electrical power and wait 5 minutes before turning power “ON”. To allow any gas to dissipate.

## **Care & Use / Troubleshooting**

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### **Care and Cleaning**

To keep your Del Rey Heater in maximum performance, we recommend the following to be performed annually.

- 1). With an air hose regulated to 30 psig, blow off any dust and dirt that has accumulated around the burner and inside the control compartment of the heater. Proper eye protection required.
- 2). From the front of the heater, direct the air hose from a distance of approximately 12 inches over the entire exposed area of each burner's ceramics.
- 3) Do not insert air hose into the inlet of the burner.
- 4) Remove main burner orifice, clean and re-install.
- 5) Check to insure heater is securely mounted and the clearance from combustible materials is maintained.
- 6) If additional service to the heater is required contact your local dealer or the factory.

### **Before Calling Service**

If no glow from hot surface igniter; or if gas valve doesn't work:

- a) Check power supply, should have 24 volts between power wires. Use volt meter between inlet wire and ground terminal inside heater control box to measure 24 volts.
- b) Check continuity by using an ohmmeter. Check resistance between valve wire and ground. Ohmmeter should read almost no resistance or (# ohms) through valve. If high resistance, check wire connectors.
- c) Be sure connectors are fully inserted into ignition control.

If insufficient gas flow:

- a) Manual gas valve not fully to "ON" position. Turn valve handle to full "ON" position. Also ensure internal lever is in the "ON" position (as shown on page 10).
- b) Burner orifice plugged. Remove service panel, remove burner orifice (7/16" wrench) and thoroughly clean. Spiders often crawl into orifice hole and make a web blocking the orifice.

## Removal of Burner

Turnoff gas and electrical before attempting any service to this appliance. Heater may be serviced by following instructions below.

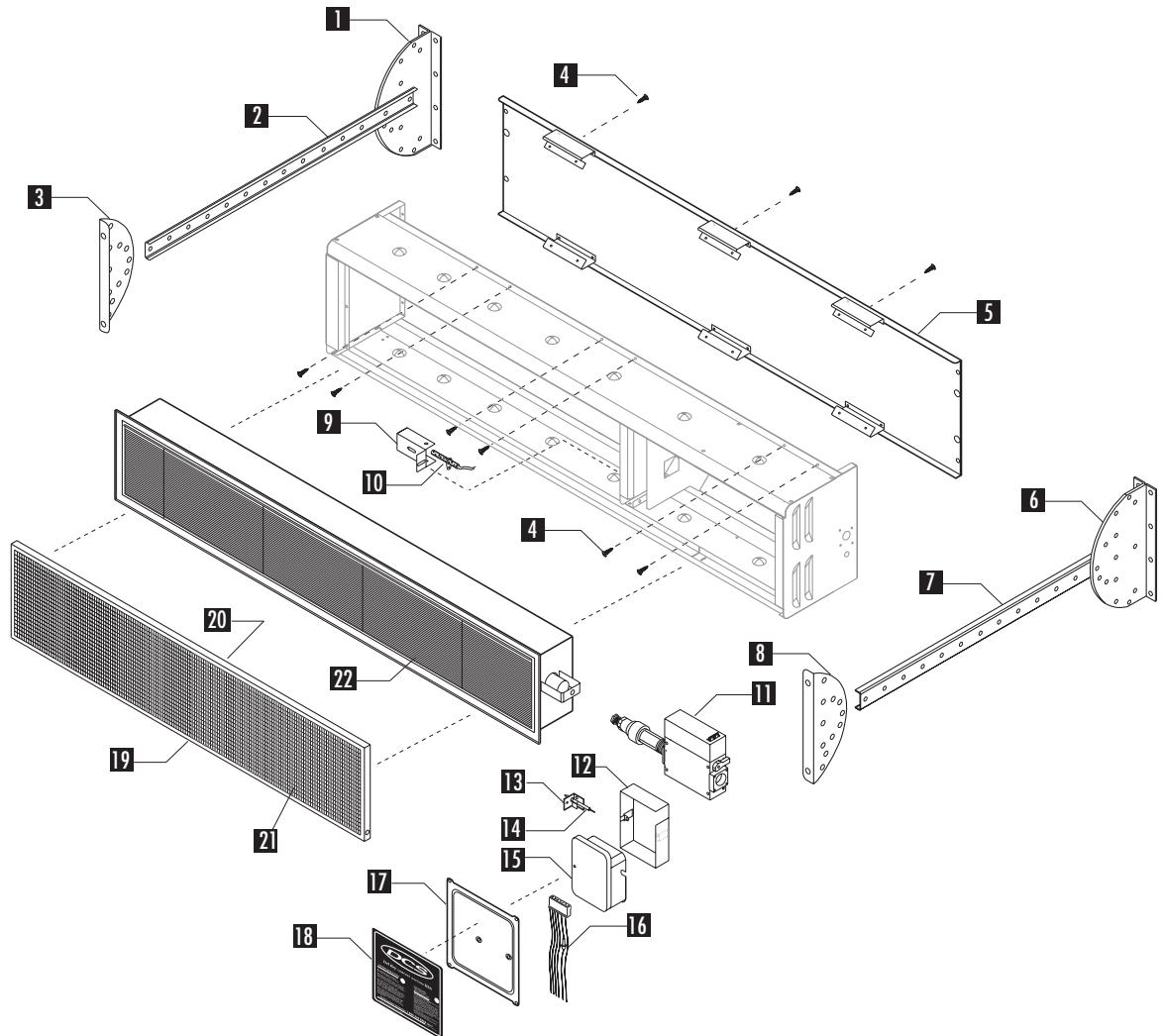
- a). Remove the four screws on the control service panel.
- b). Remove the hex nut that is holding the orifice fitting to the infrared burner's bracket.
- c). Remove the burner windscreen by removing the screw on the windscreens frame. Then pull the windscreen down and slowly slide it out.
- d). Remove the collector box, then loosen both screws on the igniter and the electrode sensor.
- e). Last, pulling infrared burner out of the heater, extreme care should be taken. To prevent the burner from contacting the fragile electrode sensor or the igniter when removing or reinstalling the burner.  
Unscrew the four screws that are holding the infrared burner to the burner and channel baffles. Remove the four screws holding the burner in place.  
Be careful not to let the burner fall out.
- f). Lift up the one end of the infrared burner by the burner channel and slide it out of the heater.
- g). To reinstall burner, reverse procedure.

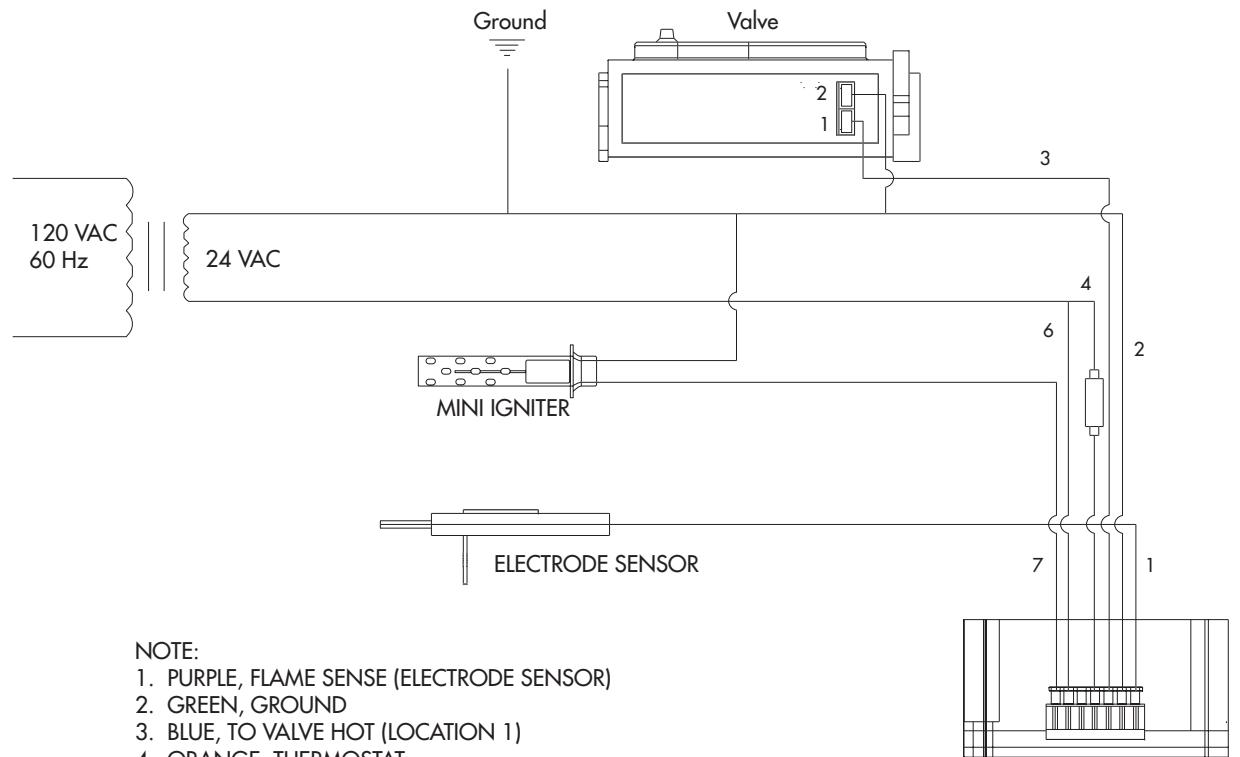
## **Heater Parts List**

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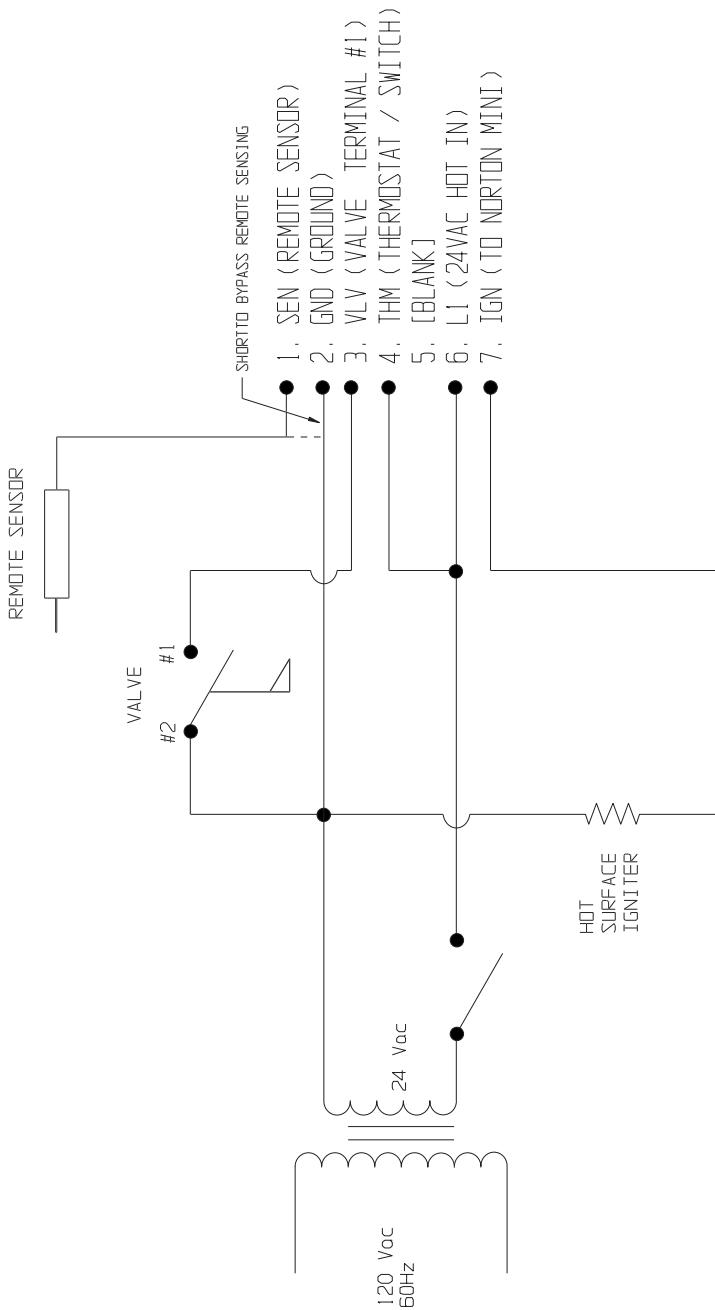
ITEM	DESCRIPTION	PART NO.
1)	Wall Plate R/H	22019
2)	Mounting Channel	22014
3)	Body Plate R/H	22012
4)	Screws	15001-26
5)	Back Panel	22002
6)	Wall Plate L/H	22019
7)	Mounting Channel	22014
8)	Body Plate L/H	22012
9)	Collector Box	22016
10)	Mini Igniter	16325
11)	Control Valve	18270
12)	Ignition Module Cover	22022
13)	Remote Sensor Bracket	22015
14)	Remote Sensor	13055-5
15)	Ignition Module	18271
16)	Wiring Harness	18272
17)	Service Panel	22006
18)	Lexan Panel	22011
19)	Frame Windscreen Bottom	22007-02
20)	Frame Windscreen Top	22007-01
21)	Egg Crate	22010
22)	I/R Burner	18227

# Heater Assembly





# Wiring Schematic



## **Length of Warranty**

This warranty applies to appliances used in residential and commercial applications.

One (1) Year Full parts and Labor Covers the entire product.

Five (5) Year limited warranty on all stainless steel components (not including surface corrosion and discoloration).

## **DCS Will Pay For**

All repair labor and parts found to be defective due to materials or workmanship for one full year from date of purchase. Service must be provided by Authorized Factory Agent during normal working hours.

## **DCS Will Not Pay For**

- Installation or start-up.
- Shipping damage.
- Service by an unauthorized agency.
- Damage or repairs due to service by an unauthorized agency or the use of unauthorized parts.
- Service during other than normal working hours
- Improper installation, such as improper hook-up, etc.
- Service visits to teach you how to use the appliance; correct the installation; reset circuit breakers or replace home fuses
- Repairs due to other than normal use.
- Damage caused from accident, abuse, alteration, misuse, incorrect installation or installation not in accordance with local codes

This warranty is for products purchased and retained in the 50 states of the U.S.A., the District of Columbia and Canada. This warranty applies even if you should move during the warranty period. Should the appliance be sold by the original purchaser during the warranty period, the new owner continues to be protected until the expiration date of the original purchaser's warranty period.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

# **Service**

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## **How To Obtain Service:**

### **Before you call for service:**

- 1 Is the circuit breaker tripped or the fuse blown?
- 2 Is there a power outage in the area?

For warranty service, contact your local DCS authorized service agency. Provide him with the Model Number, Serial Number, and date of installation, and a brief description of the problem. If you need assistance in locating the authorized service agency in your area please contact our DCS Customer Service Department for an authorized service agent near you, our number is (888) 281-5698.

Your satisfaction is of the utmost importance to us. If a problem cannot be resolved to your satisfaction, please write or fax us at:

Write:

Dynamic Cooking Systems, Inc.

Attention: Consumer Relations

5800 Skylab Road Huntington Beach, CA 92647

Fax us at: (714) 372-7003

As product improvement is  
an ongoing process at DCS,  
we reserve the right to  
change specifications or  
design without notice.



Litho in USA      06-2000  
Part No. 10955

5800 Skylab Road, Huntington Beach, CA. 92647  
Tel: (714) 372-7000      Fax: (714) 372-7001  
Parts/Customer Service      (888) 281-5698